CLAIM AMENDMENTS

Claim 1 (original): A perpendicular magnetic head comprising:

a magnetoresistive read device positioned to read perpendicular residual magnetic fields on a magnetic media in proximity with the read device;

a shield at least partially surrounding the read device comprising a magnetic material having an orientation selected to capture stray magnetic fields; and

a transverse magnetic bias field within the shield.

Claim 2 (original): The magnetic head of claim 1 wherein the transverse magnetic field is in the range of 30-500 Oe.

Claim 3 (original): The magnetic head of claim 1 wherein the transverse magnetic bias is applied by exchange pinning technique.

Claim 4 (original): The magnetic head of claim 1 wherein the transverse magnetic bias is applied by field anneal to induce magnetocrystalline anisotropy.

Claim 5 (original): The magnetic head of claim 1 wherein the transverse magnetic bias is applied by stress-induced magnetocrystalline anisotropy.

Claim 6 (original): The magnetic head of claim 1 wherein the read device comprises a giant magnetoresistive device.

Claim 7 (currently amended): A perpendicular magnetic ~~write~~ head comprising:

a ~~magnetoresistive~~ write device positioned to write perpendicular residual magnetic fields on a magnetic media in proximity with the write device;

a shield at least partially surrounding the write device comprising a magnetic material having an orientation selected to capture stray magnetic fields; and

a transverse magnetic bias field within the shield.

Claim 8 (original): The magnetic write head of claim 7 wherein the ~~write~~ device comprises a return flux pole of an electromagnetic write element.

Claim 9 (original): The magnetic write head of claim 7 wherein the transverse magnetic field is in the range of 30-500 Oe.

Claim 10 (original): The magnetic write head of claim 7 wherein the transverse magnetic bias is applied by exchange pinning technique.

Claim 11 (original): The magnetic write head of claim 7 wherein the transverse magnetic bias is applied by field anneal to induce magnetocrystalline anisotropy.

Claim 12 (original): The magnetic write head of claim 7 wherein the transverse magnetic bias is applied by stress-induced magnetocrystalline anisotropy.

Claim 13 (original): The magnetic write head of claim 7 wherein the read device comprises a giant magnetoresistive device.

Claim 14 (original): A magnetic data storage device comprising:

a perpendicular recording medium;

a read/write head;

drive electronics coupled to position the read/write head over selected locations of the perpendicular recording medium;

a read element within the read/write head;

a write element within the read/write head;

a shield at least partially surrounding the read device comprising a magnetic material having an orientation selected to capture stray magnetic fields; and

a transverse magnetic bias field within the shield.

Claim 15 (original): A method for reducing flux concentrating capacity of a shield, said shield at least partially surrounding a magnetoresistive read device positioned to read perpendicular residual magnetic fields on a magnetic media, said method comprising:

reducing permeability of said shield in a direction oriented perpendicular to said magnetic media by inducing a transverse magnetic bias field within said shield.

Claim 16 (original): The method of claim 15, wherein said step of inducing a transverse magnetic bias field within the shield further comprises inducing said transverse magnetic field bias within said shield by an exchange pinning technique.

Claim 17 (currently amended): The method of claim ~~17~~ 15, wherein said step of inducing a transverse magnetic bias field within the shield further comprises

inducing said transverse magnetic field bias within said shield by field anneal to induce magnetocrystalline anisotropy.

Claim 18 (currently amended): The method of claim ~~17~~ 15, wherein said step of inducing a transverse magnetic bias field within the shield further comprises inducing said transverse magnetic field bias within said shield by stress-induced magnetocrystalline anisotropy.